

species of the allied genus *Cryptoniscus* there is hermaphroditism with successive functioning of the two sexes and *protandry*. This hypothesis, strongly supported by the investigations of Bullar and Paul Mayer upon the Cymothoadina, appears to me to be very acceptable in the present state of our knowledge, and I willingly extend it to the genera *Hemioniscus* and *Entoniscus*, and even to other less abnormal Bopyrina, such as *Ione thoracica*, which is also found at Wimereux in the branchial cavity of *Callianassa subterranea*. We should thus easily explain how, in the case of animals so rare as the *Entonisci*, Fraisse and myself were able to find, comparatively often, upon the same crab, two or even three female individuals in different stages of development and unaccompanied by any male*.

The young imperfectly developed females would in this case be males, which, after having functioned as such, had succeeded in attaching themselves directly upon the crab, and continued their evolution as females, thanks to the more perfect nutrition which they would obtain in their new position. The great dimensions of the sac occupied by the *Entoniscus* leaves, after the escape of the embryos, a free space much greater than in the case of the true *Bopyri*, and facilitates this change of place of the male, the activity of which is sufficient.

Sacculina Carcini is not very common at Wimereux; the *Entoniscus* is very rare there. The coincidence of these two parasites upon the same crab therefore possesses a real interest, especially if we connect this observation with those made by Fritz Müller upon *E. Porcellanae*, and by Fraisse upon *E. Cavolinii*. It is, it seems to me, a fresh example of what I have called the mutual assistance or the successive association of parasites in a determinate order, each species preparing the soil for those which are to follow it. Demonstrated first among the insects, this law seems to me to be of very general application, and it will doubtless furnish valuable indications in comparative pathology when it is applied to parasites of a lower grade, animal or vegetable.—*Comptes Rendus*, May 3, 1886, p. 1034.

On the Calcareous Sponges of Minorca.

By M. LAKSHEWITZ.

M. Lakschewitz has communicated to the Dorpat Society of Naturalists a preliminary note on the calcareous sponges of Minorca, founded upon collections made in 1882 by Prof. M. Braun, chiefly in the harbour of Mahon and the Alcanfa inlet. He adopts Hückel's classification.

Order CALCISPONGIÆ.

Fam. I. ASCONES.

1. *Ascetta primordialis*, Häck.

Most of the specimens are flat cushion-like stocks of 10–40 millim.

* Fraisse found the *Entonisci* upon seven females of *Carcinus maenas* without ova; one of these crabs bore two and the other three parasites. Upon a single *Portunus puber* I found two unequally developed specimens of *Entoniscus Moniezii*, the only individuals of this species that I have been able to observe.

in diameter. They consist of anastomosing tubes, usually opening in groups through common oscula (*Tarrus primordialis*, Hæck.), more rarely quite astomatous (*Auloplegma primordiale*, Hæck.). Varieties *Ascetta protogenes* and *A. dictyoides*, Hæck., are represented among the Minorcan specimens. Triradiates regular.

Loc. Mahon, Alcaufa, apparently very abundant.

2. *Ascetta clathrus*, Hæck.

Two astomatous *Auloplegma*-stocks of 30–35 millim. in diameter. The loose tissue formed of slender tubes. Triradiates with slender cylindrical rays, sometimes slightly undulated, apices a little thickened. Both specimens belong to the var. *meandrina*.

Loc. Mahon; previously known from the Adriatic.

3. *Ascetta blanca*, Hæck.

Among the few specimens are some which as single individuals form a spindle-shaped sac with a naked osculum (*Olynthus*). One is a *monoblastic Nardorus*-stock with a common osculum, and another possesses several oscula (*Soleniscus*).

Loc. Mahon; previously known only from the Canary Islands.

4. *Ascallis canariensis*, Hæck.

All astomatous polyblastie stocks, often furnished with one or more pseudostomata, leading into vacuities of the canal-system. They belong to the variety *Ascuris arceifæ*, Hæck.

Loc. Mahon; only known from the Canaries.

5. *Ascallis minoricensis*, sp. n.

“Triradiates and quadriradiates regular (equiangulate and equiradiate) and of the same size. Rays 7–10 times as long as thick, slenderly conical. Apical ray of the quadriradiates straight, half as thick as the three facial ones. Colour in alcohol white or brown.”

Loc. Mahon.

Two specimens are large astomatous *Auloplegma*-stocks, 40–50 millim. in diameter. A third is a monostomatous stock with a common probosciform aperture.

Fam. 2. LEUCONES.

6. *Leucaltis pumila*, Hæck.

Most of the specimens are large polyblastie stocks with several naked probosciform apertures. Some of them attain a diameter of 70 millim., and one is an astomatous stock with a rather narrow gastral cavity.

It is singular that Hæckel describes only solitary personæ of small size; the Minorcan specimens are among the largest of calcareous sponges. In the structure of the skeleton they agree exactly with Hæckel's description; it consists chiefly of nearly regular triradiates, while the gastral surface and those of the canals are lined with regularly arranged small quadriradiates, the basal ray of which is straight and somewhat longer than the curved lateral ray.

Loc. Mahon; previously known from the Atlantic and Indian Oceans.

7. *Leucandra aspera*, Häck.

A single specimen with a probosciform aperture (*Dyssyconella aspera*, Häck.).

Loc. Mahon ; widely distributed in the Mediterranean.

8. *Leucandra balearica*, sp. n.

“Dermal surface spinose, as also the gastral surface. Chief part of the skeleton consisting of regular triradiates. The triradiates of the dermal cortex and the gastral quadriradiates are enveloped by minute bacillar spicules (*Stäbchenmörtel*). Scattered in the parenchyma are colossal fusiform spicules which project but little. The globular flagellate chambers are seated racemosely on the branched canals. The specimens are solitary personæ, partly without a mouth-aperture and partly with a fringed aperture.”

Loc. Mahon.

9. *Leucandra Rodriguezii*, sp. n.

“Dermal surface setosely spinose. Gastral surface spinose. Chief part of the skeleton consisting of regular triradiates ; the cortical layer thickly permeated by colossal, fusiform, and long, very fine, cylindrical spicules (*Stricknadeln*). The triradiates of the dermal cortex and the gastral quadriradiates enveloped by ‘*Stäbchenmörtel*.’ Large astomatous stocks.”

Loc. Mahon and Alcanfa.

Fam. 3. SYCONES.

10. *Sycandra coronata*, Häck.

Peristome in all specimens surrounded by an elegant cirelet (*Sycarium coronatum*).

Loc. Mahon ; widely distributed in the Mediterranean.

11. *Sycandra raphanus*, Häck.

The specimens are individual personæ, one with a naked mouth-aperture (*Sycurus raphanus*, Häck.), the others all Sycariiform.

Loc. Mahon, Alcanfa ; widely distributed, Mediterranean, Indian Ocean, Australia, Philippines.

12. *Sycandra setosa*, Häck.

Two single personæ, with a long peristomial cirelet.

Loc. Mahon ; common in the Mediterranean.

13. *Sycandra Schmidtii*, Häck.

A specimen with probosciform mouth-aperture.

Loc. Mahon ; also in the Adriatic.

14. *Sycandra elegans*, Häck.

All solitary personæ, bearing a horizontal spicular cirelet besides the peristomial cirelet.

Loc. Mahon and Alcanfa ; common in the Mediterranean.